

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner
 US Department of Commerce
 United States Patent and Trademark
 Office, PCT
 2011 South Clark Place Room.
 CP2/5C24
 Arlington, VA 22202
 ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 27 July 2001 (27.07.01)	
International application No. PCT/US00/27584	Applicant's or agent's file reference AZSI-P-010
International filing date (day/month/year) 04 October 2000 (04.10.00)	Priority date (day/month/year) 15 October 1999 (15.10.99)
Applicant ZACHARIAS, Ajit, K.	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:

15 May 2001 (15.05.01)

☐ in a notice effecting later election filed with the International Bureau on:2. The election ☒ was☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer Antonia Muller
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

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INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference AZSI-P-010	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/US 00/ 27584	International filing date (day/month/year) 04/10/2000	(Earliest) Priority Date (day/month/year) 15/10/1999
Applicant ZACHARIAS, Ajit, K.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

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☐ None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 00/27584

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G07F7/02 G07F7/08

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G07F G07C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 770 843 A (HOEVEL LEE W ET AL) 23 June 1998 (1998-06-23) abstract column 2, line 3 - line 6 column 2, line 29 - line 32 column 2, line 38 - column 3, line 26 ---	1,3-5, 7-10,13, 19,22
X	US 4 700 055 A (KASHKASHIAN JR ARSEN) 13 October 1987 (1987-10-13) column 3, line 12 - line 18 column 4, line 33 - line 35 column 4, line 50 - column 5, line 2 column 6, line 13 - line 52 --- -/--	1,7,8, 13,19,22

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- * & * document member of the same patent family

Date of the actual completion of the international search

14 February 2001

Date of mailing of the international search report

22/02/2001

Name and mailing address of the ISA

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Lindholm, A-M

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 00/27584

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	FR 2 745 406 A (SLIGOS) 29 August 1997 (1997-08-29) abstract; figures 1,2 page 2, line 3 - line 31 ---	1,13,19
A	US 5 530 232 A (TAYLOR DOUGLAS C) 25 June 1996 (1996-06-25) abstract; figures 1,2 column 3, line 47 - line 67 column 4, line 43 - line 57 -----	1,13,19

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 00/27584

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5770843	A	23-06-1998	NONE	
US 4700055	A	13-10-1987	NONE	
FR 2745406	A	29-08-1997	AU 2098897 A WO 9731343 A	10-09-1997 28-08-1997
US 5530232	A	25-06-1996	US 5578808 A	26-11-1996

Statement under Article 19

The following claims are cancelled:

Claims 3, 4 and 17 (reference to Merchant subsystems);
Claim 5 (reference to Bankcard system);
Claim 7 (content of record not claimed);
Claim 9 (photograph on the card);
Claim 10 (the system and method are claimed, not the card);
Claims 14 and 20 (trivial);
Claims 8 and 22 (reference to PINs).

The original claims have been amended to more accurately describe the invention features:

1. The multi-application (not multi credit) card system. Applications could involve all types of content including data, image, voice, audio, video, etc.
2. Webster's II New College Dictionary defines "client" as "a computer or program that can download files for manipulation, run applications or request applications-based services from a file server". References to "merchant subsystem" need to be replaced by the more correct "client subsystem", in the description and drawings.
3. Other inventions use Personal Identification Numbers (PINs) to verify the identity of the user. This invention uses a field location identifier - called an index - that is unique to each card account. Multiple accounts can have the same PIN number. But two accounts cannot share the same index.
4. Pre-selection of Account Numbers. This invention, in contrast to others, requires that the user know and pre-select the account desired by specifying its unique index. The user must enter the index *before* any retrieval takes place.
5. The Lock/Unlock (or Disable/Re-enable) features have been included in the independent claims.
6. The card processor and card issuer subsystems could initiate account requests and act as client subsystems. This feature, while included in the original claims, has been clarified in multiple dependent claims.
7. The portable and mobile features of client devices (phones pictured in the drawings and mentioned in the description) have been added to the claims.

References to a remote database have been removed since the system uses the client-server model, where location of the database could be anywhere. In Claim 12, references to "Merchant" and "Bankcard" are removed.

While no major change is necessary to either the description or the drawings, the difference between the invention and its embodiments need more clarification.

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

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Applicant's or agent's file reference AZSI-P-010	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US00/27584	International filing date (day/month/year) 04/10/2000	Priority date (day/month/year) 15/10/1999
International Patent Classification (IPC) or national classification and IPC G07F7/02		
Applicant ZACHARIAS, Ajit, K.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 6 sheets, including this cover sheet.

- ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 14/05/2001	Date of completion of this report 19.11.2001
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Rother, S Telephone No. +49 89 2399 2250 

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/US00/27584

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

1-4 as originally filed
5-23 with telefax of 14/05/2001

Claims, No.:

1-26 as amended under Article 19

Drawings, sheets:

1/6-6/6 with telefax of 14/05/2001

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/US00/27584

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-26
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-26
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-26
	No:	Claims	

2. Citations and explanations
see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:
see separate sheet

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement

1. Document D1 (US 5 770 843 A) is considered to represent the most relevant state of the art.
2. Independent claims 1, 2, 10, 21 and 26, respectively, include the essential novel and inventive features of an index number which fulfills the function of *both* an application pointer being directed to different applications and functions of a remotely hosted smart card system *and of* a personal identification number (PIN) additionally.
3. In particular, D1 discloses a system for ascertaining identity of a customer based on a single card carried by the customer. The card bears a machine-readable code, which is transmitted to a database at a remote location. The database locates a record associated with the code, which contains one or more account numbers. Associated with each account number is a Personal Identification Number (PIN); it is possible that all PINs are identical. The customer selects an account number, and is asked for a PIN. If the PIN given by the customer matches that of the account number, the customer is concluded to be the valid owner of the account, and a transaction is allowed to proceed.
4. Having regard to independent claims 1, 2, 10, 21 and 26 of the present application, D1 does not disclose an index code having two functions at the same time (application pointer and PIN).
5. Having regard to document D2 (US 4 700 055 A) being cited as X-document in the search report, similar arguments apply. D2 also discloses a system which enables a user to carry one credit card instead of many. The information pertaining to each credit card account, such as the name of the account, the number of the account, and its expiration date are stored in a remotely-located computer. Only the name and identification number of the owner are encoded on the card, the information for the various credit card accounts being stored in the remotely-located computer. A credit card is inserted into a card reader of a merchant. Communication is provided via telephone lines, with a remotely-located computer which stores information such as

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/US00/27584

the name, number, expiration data, and credit limits for each credit card account maintained by the card owner. The system derives this information from the remote computer. The main function of the remote computer is to determine which credit card accounts are associated with a particular card. The remote computer can also store the name and PIN of the owner of the card. In this case, the only information that need be recorded on the card is the card number itself. The microprocessor interrogates the remote computer, so as to compare the information given by the customer with the information stored in the remote computer.

Thus, no combination of the account number belonging to different applications and of a application-specific PIN is disclosed in document D2.

6. Thus, the examiner is of the opinion that aforementioned device claims 1, 2, 10 and the direct procedural equivalence of the structural apparatus defined in independent method claim 21 and device claim 26 are allowable since they have advantages over the prior art available (D1) which the person skilled in the art would not be expected to arrive at.
7. Having regard to the other documents cited in the search report, the skilled person would regard the subject-matter of the invention as involving an inventive step (Article 33(3) PCT).
8. The subject-matter of independent claims 1, 2, 10, 21 and 26 is therefore to be regarded as new and inventive in the light of the available prior art (Article 33(2) and (3) PCT).
9. The relevant dependent claims define advantageous embodiments and further developments of independent claims 1, 2, 10, 21 and 26, respectively. Their subject-matter is therefore also new and inventive (Article 33(2) and (3) PCT).
10. Industrial applicability (Article 33(4) PCT) is obvious for all claims.

Re Item VII

Certain defects in the international application

11. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in documents D1 and D2 is not mentioned in the description, nor are those documents identified therein.
12. The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).
13. Independent claims 1, 2, 10 and 21 are not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art (document D1) being placed in the preamble (Rule 6.3(b)(i) PCT) and with the remaining features being included in the characterising part (Rule 6.3(b)(ii) PCT).

CLAIMS

*Replaced
By Article 19*

The invention claimed is:

1. A system for providing secure access to one or more card accounts, comprising:

5 a multi-application card storing a readable identification number corresponding to the card;

a database located remotely from the multi-application card and correlating the identification number with a record associated with the card, the record containing a list of card account numbers and associated
10 indexes; and

a translator operative to:

receive a transaction request including the identification number read from the multi-application card and at least one of the associated indexes obtained from a source other than the card,

15 use the received identification number to access the corresponding record in the database,

use the received index to retrieve the corresponding card account number, and

20 transmit the card account number in response to the transaction request.

2. The system of claim 1, wherein the transaction request is received from a card processor that is operative to receive the transaction request, process the request to determine that the translator should
25 receive the request, and transmit the request to the translator.

3. The system of claim 2, wherein the card processor receives the request from a merchant subsystem that is operative to scan the card

for the identification number and to receive the index entered via a numeric keypad from a person.

4. The system of claim 1, wherein the transaction request is received from a merchant subsystem that is operative to scan the card for the identification number, determine that the translator should receive the request, receive the index entered via a numeric keypad, and transmit the request to the translator.

5. The system of claim 1, wherein the transaction request is received from a Bankcard system that is operative to scan the card for the identification number, determine that the translator should receive the request, receive the index entered via a numeric keypad, and transmit the request to the translator.

6. The system of claim 1, wherein the transaction request is received from a Card Issuer subsystem that is operative to scan the card for the identification number, determine that the translator should receive the request, receive the index entered via a numeric keypad, and transmit the request to the translator.

7. The system of claim 1, wherein the record contains card information including at least card type, account number, expiration date.

8. The system of claim 1, wherein the transaction request further includes a personal identification number corresponding to the multi-application card account number from a source other than the card.

9. The system of claim 1, wherein the multi-application card includes a name and photograph of the authorized cardholder.

5 10. The system of claim 1, wherein the identification number is stored using an encoding technique selected from the group consisting of a magnetic strip, a barcode and a microprocessor.

10 11. The system of claim 1, wherein the index is at least a one-digit number.

15 12. The system of claim 1, wherein the translator and database are stored in a system selected from the group consisting of a merchant system, card processor system, card issuer system and bankcard system.

13. A system for providing secure access to one or more card accounts, comprising:

a multi-application card storing a readable identification number corresponding to the card;

5 a database located remotely from the multi-application card and correlating the identification number with a record associated with the card, the record containing a list of card account numbers and associated indexes; and

a translator operative to:

10 receive a transaction request including the identification number read from the multi-application card and one of the associated indexes obtained from a source other than the card,

use the received identification number to access the corresponding record in the database,

15 use the received index to review the corresponding card account number,

generate a transaction denial if the received index does not exist or lacks a corresponding card account number, and

20 transmit the transaction denial in response to the transaction request.

14. The system of claim 13 wherein the record is updated when the transaction denial is transmitted.

25 15. The system of claim 14 wherein the translator generates denials for future transaction requests that include the identification number and the index.

16. The system of claim 13, wherein the transaction denial is received by a card processor, the card processor operative to receive the denial, process the denial, and transmit the denial to the merchant
5 subsystem.

17. The system of claim 16, wherein the merchant subsystem processes the denial to determine if the consumer may be permitted to re-enter the index.

10

18. The system of claim 13, wherein the transaction denial is received by a card processor, the card processor operative to receive the denial, process the denial and transmit the denial to an issuer subsystem.

15 19. A method for providing access to one or more card accounts, a multi-application card, comprising the steps of:

transmitting an acquired identification number and an index for a card-based transaction to a transaction management system;

transmitting the identification number and index to a card translator
20 if the identification number corresponds to a multi-application card number;

identifying a cardholder record in response to determining the identification number corresponds to the multi-application card number;
distinguishing an account in the cardholder record by processing the
25 index wherein the distinguishing makes available account information for all card accounts in the multi-application cardholder record;

deciding if the account information is available for the distinguished account by the account information;

generating a first response if the account information is not available and a second response if the account information is available;

5 and

transmitting the generated response to the transaction management system.

20. The method of claim 19 further including updating the
10 cardholder record when a response is generated.

21. The method of claim 19 further including automatically denying future transactions if the first response is generated.

15 22. The method of claim 19 further including the step of transmitting to a card translator a personal identification number.

23. A computer controlled apparatus operable for performing the method of claim 19.

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The PTO did not receive the following
listed item(s)

No POSTCARD